

REFERENCES

- DANIEL, J.C. (1983): The book of Indian reptiles. Bombay Natural History Society, Bombay. page 76.
- SMITH, M.A. (1943): The fauna of British India including Ceylon and Burma. Reptiles and Amphibians. Vol. 3, Serpentes. Taylor and Francis, London. p. 422.

19. BREEDING SEASON OF HORSE-SHOE PIT VIPER (*TRIMERESURUS STRIGATUS*) IN NILGIRI BIOSPHERE RESERVE

The Western Ghats is one of the well known areas of biodiversity and endemism. It is reported that 89 of 117 amphibian species (Daniels 1992) and 48 of 112 species of reptiles are endemic. Six species of pit vipers have been reported from the Western Ghats (Smith 1943). They are Hump nosed (*Hypnale hypnale*), Largescaled (*Trimeresurus macrolepis*), Malabar (*T. malabaricus*), Horse-shoe (*T. strigatus*), Bamboo (*T. gramineus*) and Hutton's (*T. huttoni*) pit vipers (Smith 1943 & 1949). Indian vipers are ovoviviparous. The present report is based on an observation from Mukkuruthi National Park, Nilgiri Biosphere Reserve (NBR). Mukkuruthi National park is a part of the higher hills (1800-2500 m above msl) of NBR. The dominant vegetation type of this area is Montane Shola Grassland.

On 21 September 1995, while conducting a lizard survey in the Western catchment of this National Park, we located a viper which was identified as Horse-shoe pit viper (*Trimeresurus strigatus*) based on the description by Smith (1943). The snake was basking on a barren rock surrounded by boulders. The ambient temperature was less than 12° C (10.00 AM). The area was wet as there was a

stream close by. This species is reported to be distributed in Nilgiri, Annamalai, Sevaroy, Palani and Tirunelveli hills (Smith 1943).

The viper measured 365 mm in snout-vent length and 55 mm in tail length. Five developing eggs were felt by palpation. Breeding season of this species has not been recorded so far (Smith 1943, Murthy 1990). Based on the present observation, it appears that the Horse-shoe pit viper breeds in the post monsoon season. In the same general locality i.e. Western Catchment of Mukkuruthi National Park, other reptile species such as the whip snake (*Ahaetulla perroteti*) and Nilgiri Salea (*Salea horsfieldi*) are common.

We record our sincere thanks to the World Wide Fund for Nature (WWF) India for financial assistance and Tamil Nadu Forest Department for permission to work in Mukkuruthi National Park.

Sept. 17, 1996 P. KANNAN & S. BHUPATHY
Sálim Ali Centre for Ornithology & Natural History, Kalampalayam, Coimbatore 641 010.

REFERENCES

- DANIELS, R.J.R. (1992): Geographical distribution pattern of amphibians in the Western Ghats, India. *J. Biogeography* 19(5): 521-531.
- MURTHY, T.S.N. (1990): Illustrated guide to the snakes of Western Ghats. Occasional paper. *Rec. Zool. Surv. India*. 114: 60-61.
- SMITH, M.A. (1943): Fauna of British India. Reptilia and Amphibia. Vol III. Serpentes. Taylor & Francis, London.
- SMITH, M.A. (1949): A new species of pit viper from South India: *Trimeresurus huttoni*. *J. Bombay nat. Hist. Soc.* 48 (3): 596.

20. EXTENSION OF RANGE OF *SILURUS WYNAADENSIS* DAY (PISCES: SILURIFORMES: SILURIDAE)

During the course of a faunistic survey in the hill ranges of the Kasaragod district of Kerala, the

survey team of Z.S.I. collected two specimens of the Siluroid fish, *Silurus wynaadensis* Day, 1873,

from a hill stream at Ranipuram, a forest locality situated at an elevation of about 760 m above m.s.l. on the southeastern part of the district. All the streams originating in the hill ranges of the district empty into the west flowing rivers in the district. The hill stream wherein *Silurus wynaadensis* Day was found is spring-fed and forms the headwaters of the river Chandragiri, one of the major west flowing rivers in the district.

Silurus wynaadensis Day is distinguished from other species in the genus by having the vomerine band of teeth interrupted, the premaxillary teeth in a continuous narrow band, four mandibular barbels, anal with 58-62 rays and pectoral with 10 branched rays.

The occurrence of *Silurus wynaadensis* Day in a west flowing river in Kasaragod is an extension of its range in Kerala. Out of the three species of the genus *Silurus* Linn. found in India (Haig 1950), *Silurus wynaadensis* Day is so far known to occur in the east flowing rivers of the Western Ghats, from Wynaad in Kerala (Day, 1873, 1878) and from the Jaggar valley in Karnataka (Bhimachar and Rau, 1941) associated with the drainage systems of the

rivers Cauvery and Tungabhadra respectively. Later Rajan (1955) reported this species from the headwaters of Bhavani river which is also a tributary of Cauvery.

The present record of this species is the first in Kerala in a west flowing river.

The material examined (2 specimens 60-61.5 mm. SL, Ranipuram, 10 September, 1993) is deposited in the W.G.F.R.S. (Calicut), Zoological Survey of India.

ACKNOWLEDGEMENTS

I thank the Director, Zoological Survey of India, Calcutta and the Officer-in-Charge, Western Ghat Field Research Station, Z.S.I., Calicut for providing facilities and encouragement.

July 11, 1996

K.C. GOPI

*Zoological Survey of India,
Western Ghat Field Research Station,
Kamala Bldg, (1st Floor),
13/787A, Annie Hall Road,
Calicut-673002.*

REFERENCES

- DAY, F. (1873): On some new or imperfectly known fishes of India and Burma. *Proc. Zool. Soc. Lond.*, p. 237.
- DAY, F. (1878): The fishes of India - William Dawson, London. XX - 778 pp. 198 pls.
- BHIMACHAR, B.S. & A.S. RAU (1941): The fishes of Mysore State. 1-Fishes of Kadur district. *J. Univ. Mysore (B)1*; 141-153.
- HAIG, J. (1950): Studies on the classification of the catfishes of the Oriental and Palaearctic family Siluridae. *Rec. Indian Mus.* 48: 59-116.
- RAJAN, S. (1955): On a collection of fish from the head waters of the Bhavani river, South India. *J. Bombay nat. Hist. Soc.* 53 (1): 44-48.

21. MYSTUS TENGARA (HAMILTON) (SILURIFORMES: BAGRIDAE) - AN ADDITION TO THE ICHTHYOFAUNA OF JAMMU (TAWI), INDIA.

Bagrid catfishes of the genus *Mystus* Scopoli are primary freshwater catfishes which are widely distributed in southeast Asia, the Indo-Australian islands and Africa, being found in Syria in west Asia through India, Nepal, Pakistan to Sri Lanka in the south, through Bangladesh, Burma, Thailand, Indo-China, Malaysia to East Indies, and China in the east. A few species enter the seas and estuaries. *Mystus*

Scopoli and *Rita* Bleeker are known as fossils from the Pliocene of the Siwaliks (Lydekker 1886). The African genus *Porcus* is considered the ancestor of *Mystus*, indicating the African origin of the latter genus (Jayaram 1966, 1974).

In the ichthyofauna of Jammu Province of Jammu and Kashmir State, catfishes of the genus *Mystus* are represented by two species, *M. bleekeri*